

East Goose Lake

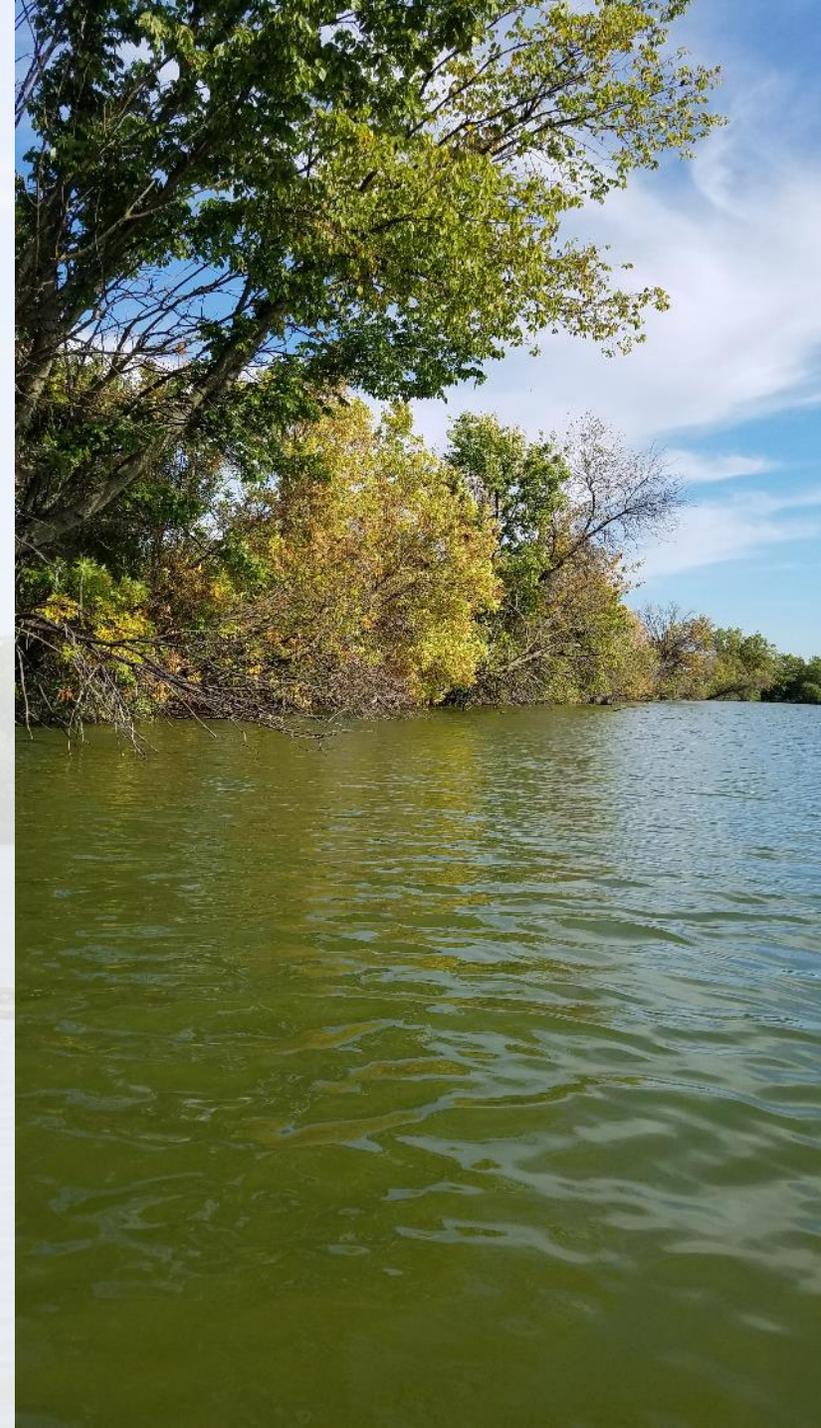
August 3, 2021

Community Input Meeting



Welcome and orientation

- Agenda for the evening
- Balance of input, sharing, and allowing space for everyone
 - Request tonight is for new comments that residents feel may not have already been heard and incorporated into the community-engagement process/documentation
- Information packets to pick up at the door



Goal for tonight

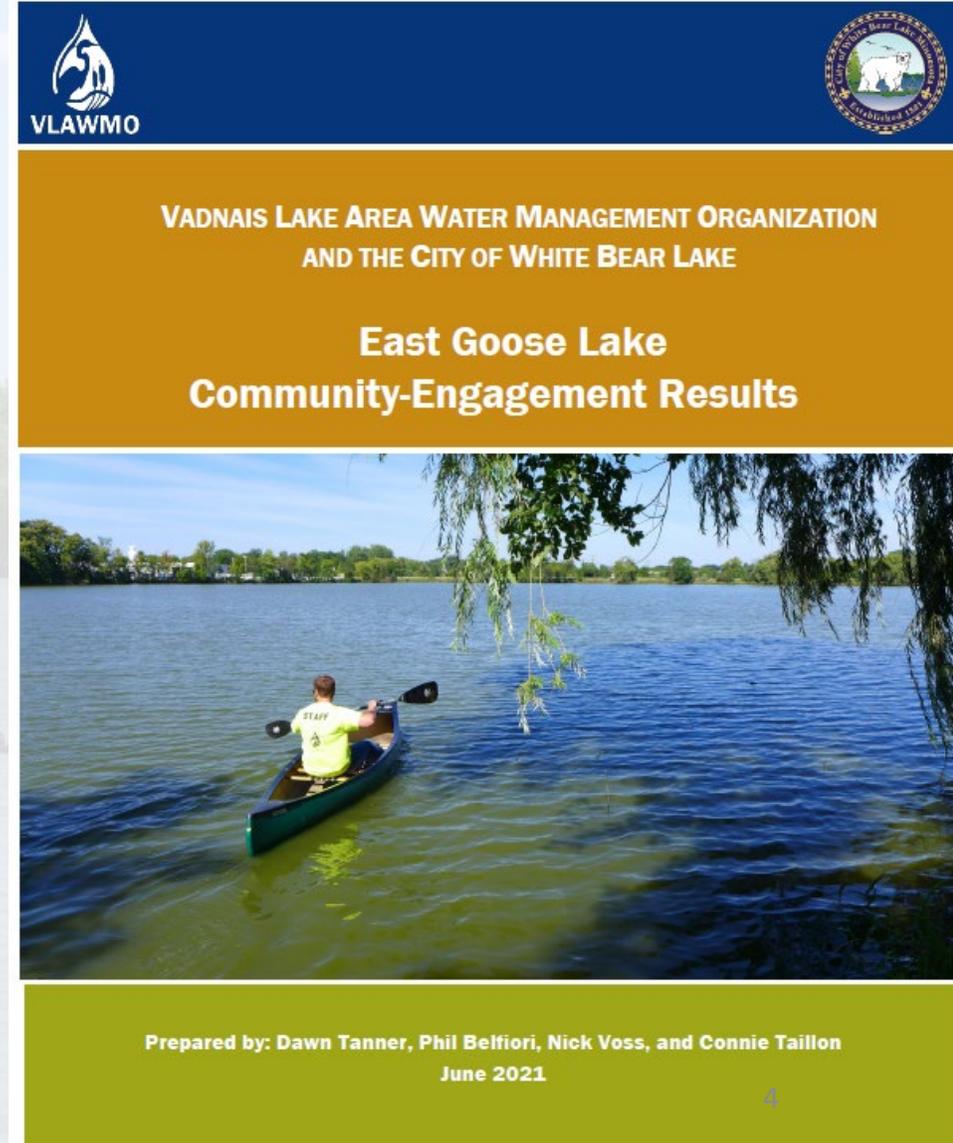
- Share process and results of community-engagement process
- Share update on information presented to the City Council and VLAWMO Board during spring/summer
- Listen to comments and questions specific to process to date, shallow-lake science, community-engagement process, and notifications to lakeshore landowners



Printed material for tonight

(Copies available for reference)

1. Tonight's PPT presentation
2. East Goose Lake
Community-Engagement Results
(posted on East Goose Lake Web Hub)



For tonight's meeting

- Update since Dec. 1 neighborhood conversation
- Shallow lake science
- Summary of community-engagement process and results
- Public input opportunity



VADNAISS LAKE AREA WATER MANAGEMENT ORGANIZATION
AND THE CITY OF WHITE BEAR LAKE

**East Goose Lake
Community-Engagement Results**



Prepared by: Dawn Tanner, Phil Belfiori, Nick Voss, and Connie Taillon
June 2021.

For tonight's meeting

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Update since Dec. 1 neighborhood conversation

East Goose Lake community-engagement process

Lakeshore owner engagement

- Neighborhood conversation with lakeshore owners
- Hard-copy response form mailed to lakeshore owners

Community engagement

- Community-engagement survey online via Survey Monkey
- Upcoming, late-summer community input meeting

Update since Dec. 1 neighborhood conversation

Postcard notifications

Most recent postcard:

- Sent to lakeshore residents July 13, 2021 (30 addresses)

Previous postcards sent:

- Nov. 5, 2020
- Nov. 19, 2020
- Jan. 26, 2021
- March 2, 2021
- April 7, 2021
- May 17, 2021
- June 2, 2021

East Goose Adaptive Lake Management Community Input Meeting:
August 3rd, 2021 6:30–8 pm

Public Safety Training Room (3rd St Entrance)
4700 Miller Ave
Behind WBL City Hall: Map on back

Visit the East Goose Adaptive Lake Management Web Hub for updates, more information, and an audio recording of the meeting (to be posted after the meeting).

vlawmo.org/EastGooseALM



Meeting includes:

Summary Presentations
Shallow lake science &
Public engagement results

**Followed by a public
input opportunity**

Update since Dec. 1 neighborhood conversation

East Goose ALM Web Hub

- Reports, publications, background, FAQ, meeting notifications and recordings
- East Goose Lake Community-Engagement Results (June 1, 2021)

Resources:

- + [East Goose Lake Neighborhood Discussion: December, 2020](#)
- + [White Bear Lake Stormwater Pollution Prevention: April, 2021](#)
- + [White Bear Lake City Council Visitors Presentations: May, 2021](#)
- + [Community-engagement Results: June, 2021](#)
- + [Other](#)

+ [East Goose Lake Water Quality Data](#)



The screenshot shows a Zoom meeting recording interface. The title bar reads "East Goose Lake Neighborhood Conversation". The main content is a slide titled "Adaptive Lake Management" with a play button overlay. The slide lists the following bullet points:

- ALM and associated benefits
- Steps to implement ALM approach
- Possible Management projects

At the bottom of the slide, it says "Watch on YouTube". The Zoom interface includes a "Share" button, a "Watch later" button, and a vertical sidebar on the right showing thumbnails of other participants.

Update since Dec. 1 neighborhood conversation

Informational sessions

Recent Presentations to Council and VLAWMO Board

- I. MS4 permitting by City of WBL staff (April 27)
- II. Shallow Lakes and Alum by Barr Engineering (May 11)
- III. Shallow Lake Vegetation Management by Barr Engineering (May 25)
- IV. City Council Work Session on shallow-lake science and community-engagement results (June 15)
- V. Shallow-lake science and community-engagement results presentation to VLAWMO Board (June 23)

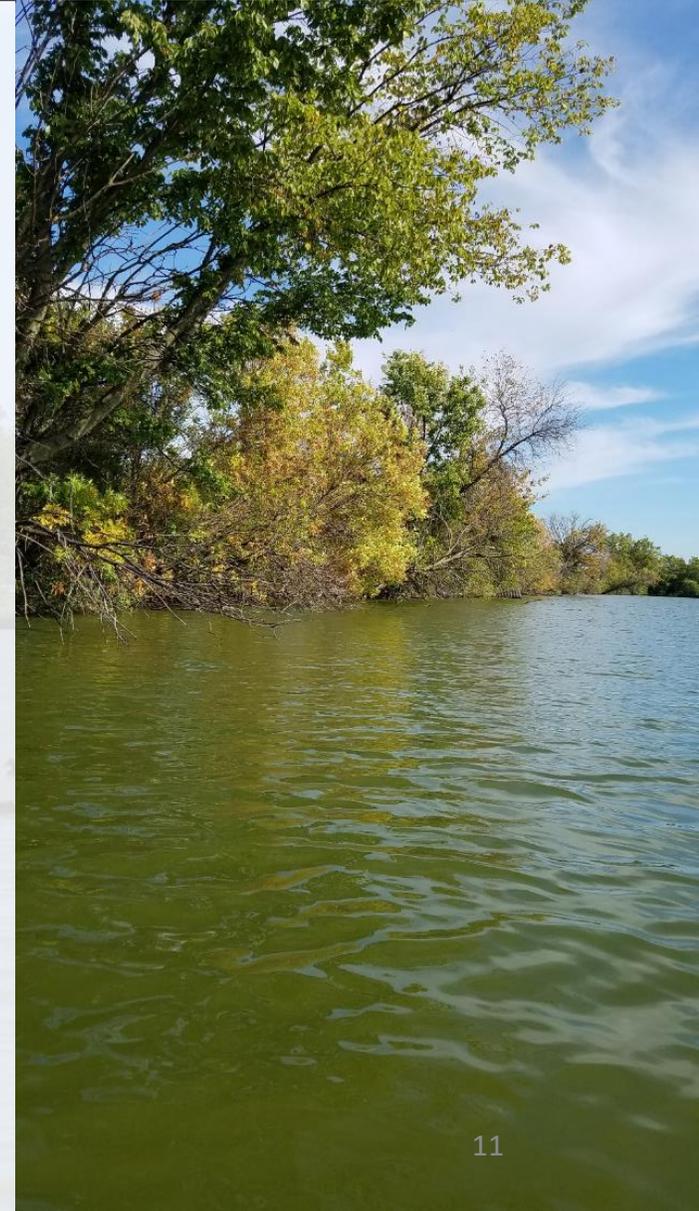
Update since Dec. 1 neighborhood conversation

Informational sessions

I. MS4 permitting by City staff (April 27)

New MPCA MS4 permit requirements:

- Additional reporting requirements for impaired lakes with Total Maximum Daily Load (TMDL) assessments
 - Submit compliance schedule for 5-year permit cycle (identify projects and implementation years)
 - Report pollutant reduction progress for nutrient-impaired lakes, including East Goose Lake



Update since Dec. 1 neighborhood conversation

Fish Management on East Goose Lake

- Bullhead population is very high
- Fish survey done in 2019
- Predator fish will not survive without habitat (i.e., plants)
- MN DNR stocked 575,000 walleye fry in spring 2021
- These fish will eat bullhead and likely reduce numbers to support preparation for an alum treatment
- Fish survey planned for fall 2021 to assess results

- These fish likely will not survive the winter
- Continued stocking not worthwhile without habitat



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Prepared by: Dawn Tanner, Phil Belfiori, Nick Voss, and Connie Tailon
June 2021.

Shallow lake science

Shallow lakes uniquely exist in alternative stable states

- Turbid, algae dominated state prone to severe and toxic algae blooms
- Clear, plant dominated state prone to heavy vegetation growth

Alum is an effective tool for restoring East Goose Lake

- 88% of the P entering East Goose Lake is from the sediments
- Alum is proven effective and safe for recreational shallow lakes
- Maintenance treatments will likely be needed

East Goose Lake will likely respond with increased vegetation growth

- To maintain recreational use, long term active plant management will be required

Competing Equilibria in Shallow Lakes

Clearwater State

- Large aquatic plant community
- Low algal productivity
- Large grazer population

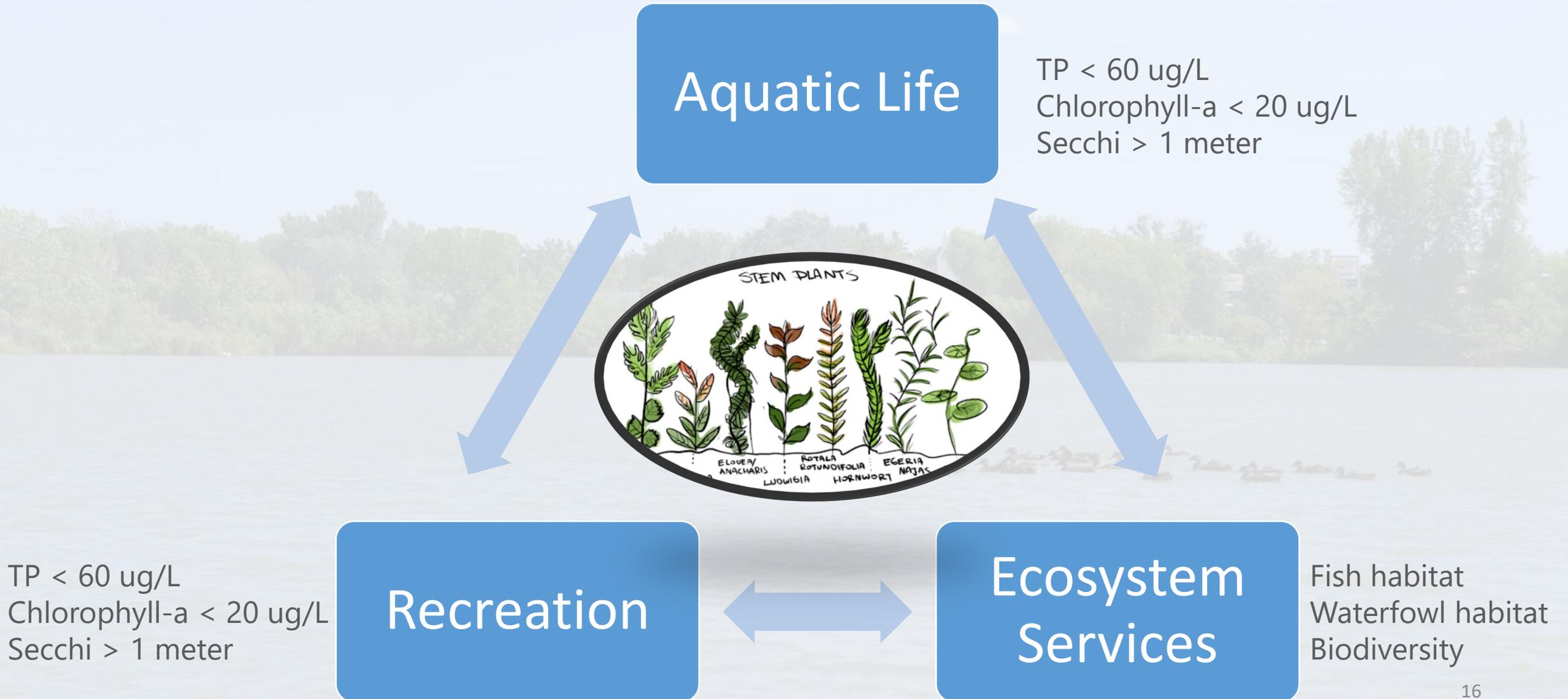
Turbid State

- High algal productivity
- Low aquatic plant productivity
- Low grazer (zooplankton) productivity



Balancing aquatic vegetation and recreation in shallow lakes

why the plant dominated state?



Strategy for restoring shallow eutrophic lakes



- Driver detection and removal
- External and internal nutrient control
- Biomanipulation
- Plant establishment
- Stabilizing and managing restored system

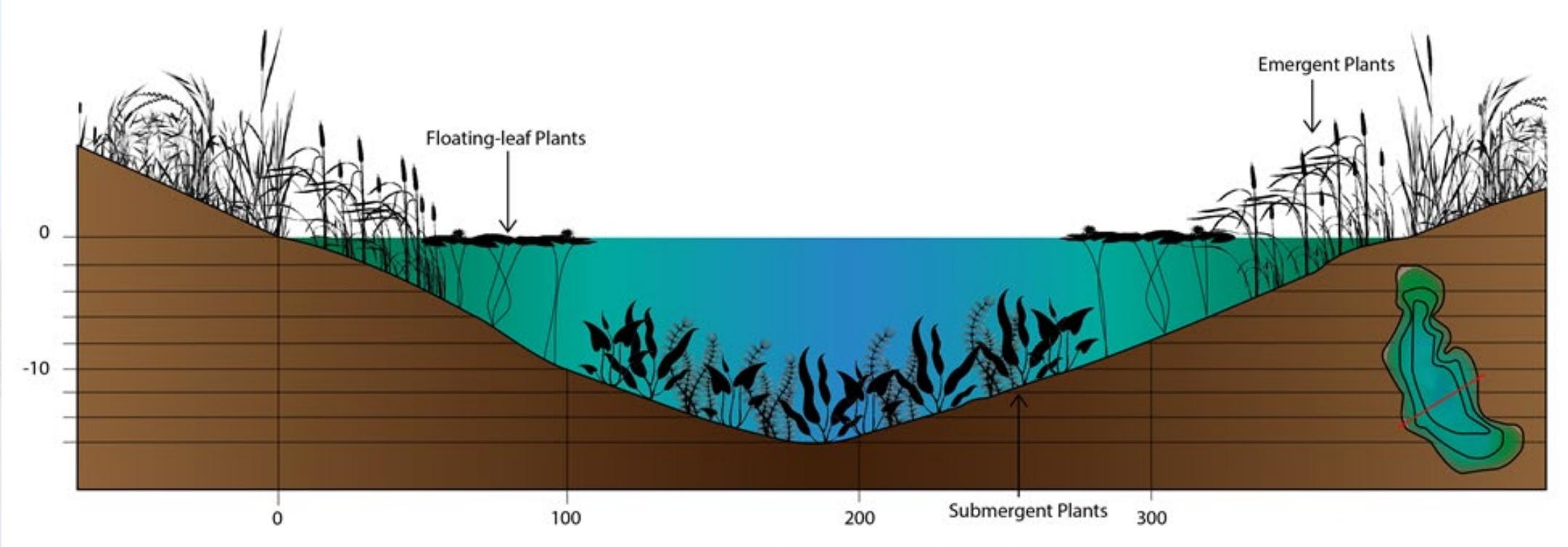


Sediment P Inactivation - Aluminum Sulfate

- 88% of P load to East Goose Lake is from the sediments
- Aluminum Sulfate (liquid)
 - Dissolves in water to form aluminum hydroxide and sulfate
 - Permanently binds phosphorus in the sediments
- Results in clear water in a few days
 - Sunlight reaching the sediment to invigorate aquatic plant community

Aquatic vegetation management – Gardening your lake

Como Lake Example



Diverse, native, moderately abundant plant community



Native, monotypic SAV community



Monotypic SAV Dominated by Invasive species

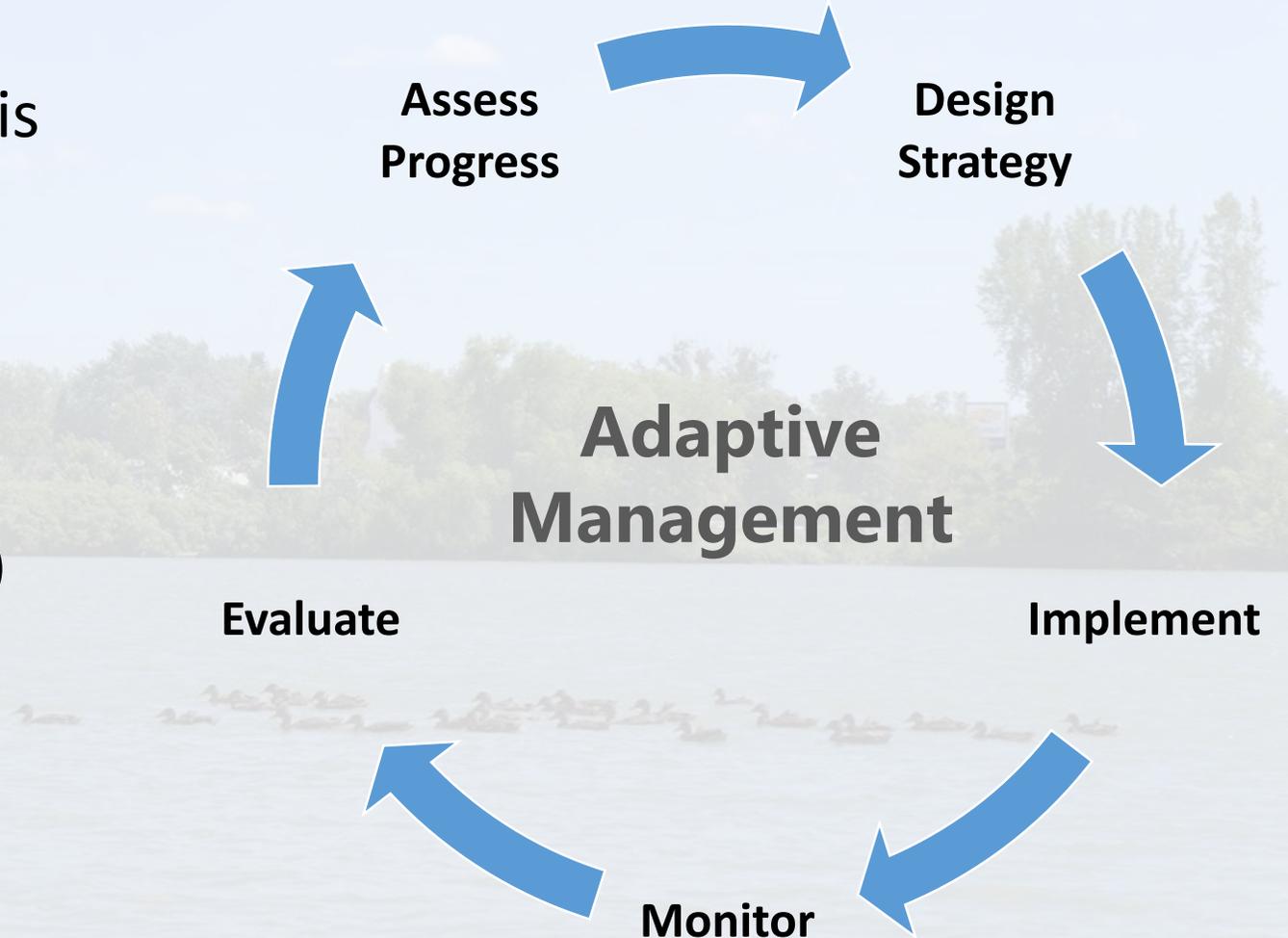


No Vegetation



Adaptive management in aquatic plant management

- Aquatic vegetation management is challenging
 - Shallow depth increases challenge
 - Species specific response to management actions
 - Manage multiple goals (habitat, sediment stabilization, biodiversity)
- Management Objectives
 - Immediate: Harvesting, herbicide, physical controls
 - Long term: community structure, sediment, hydrology

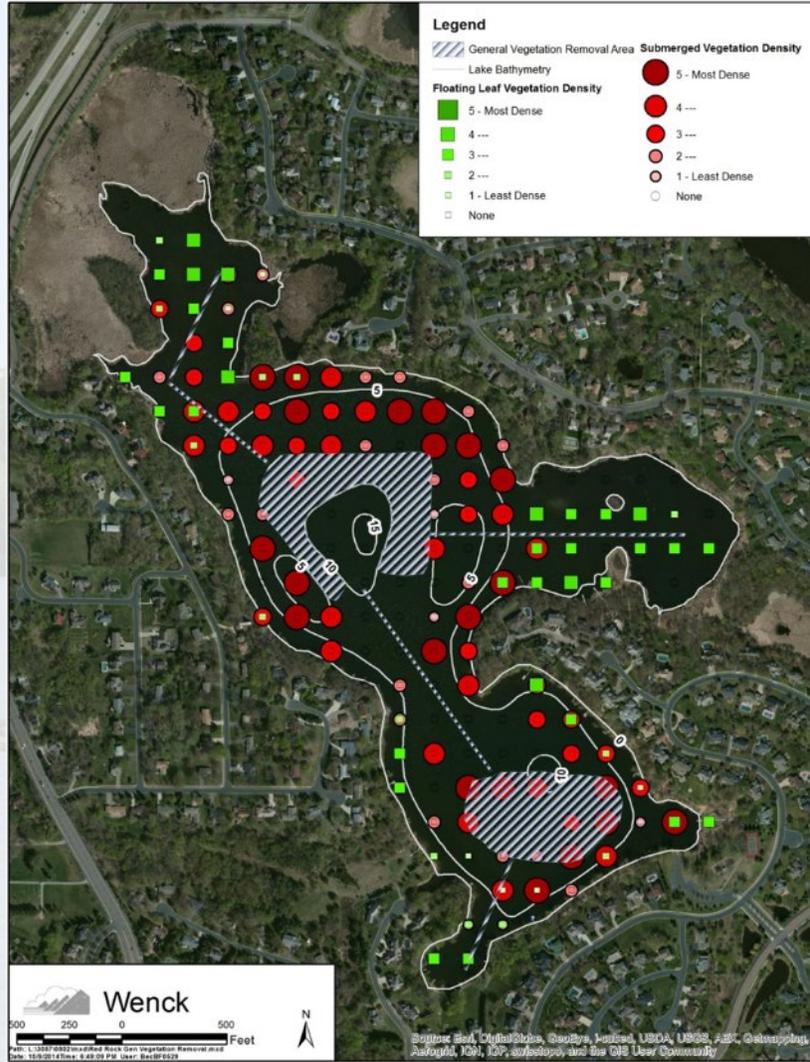
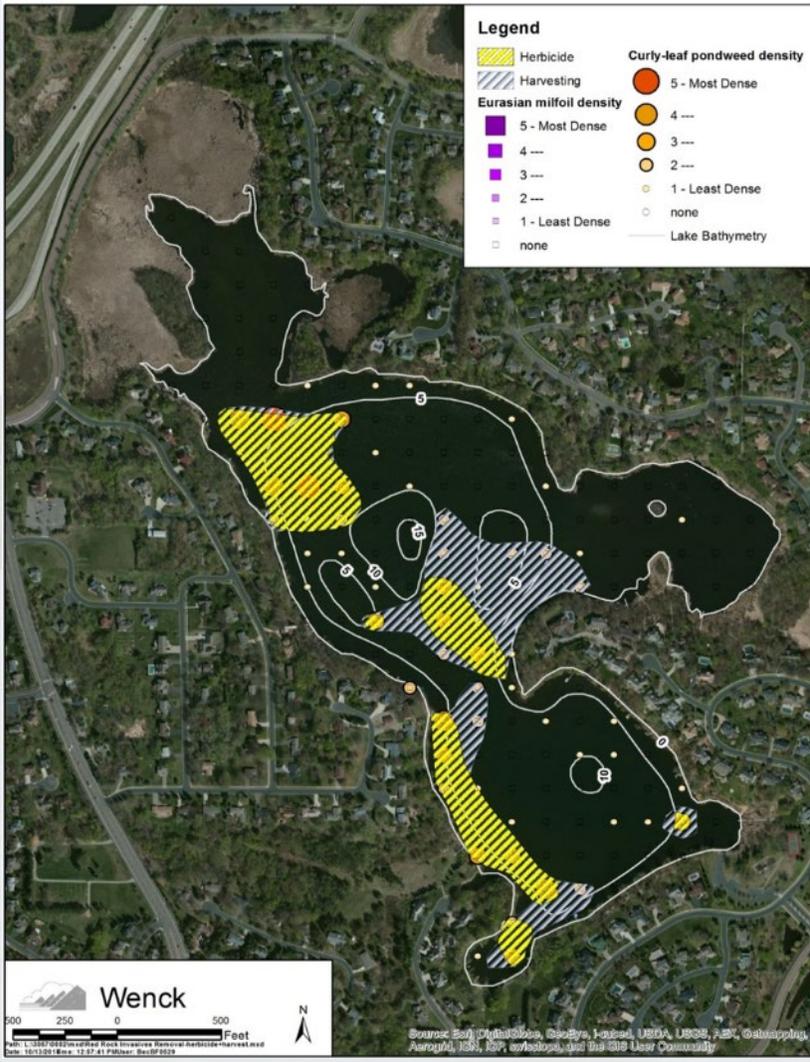
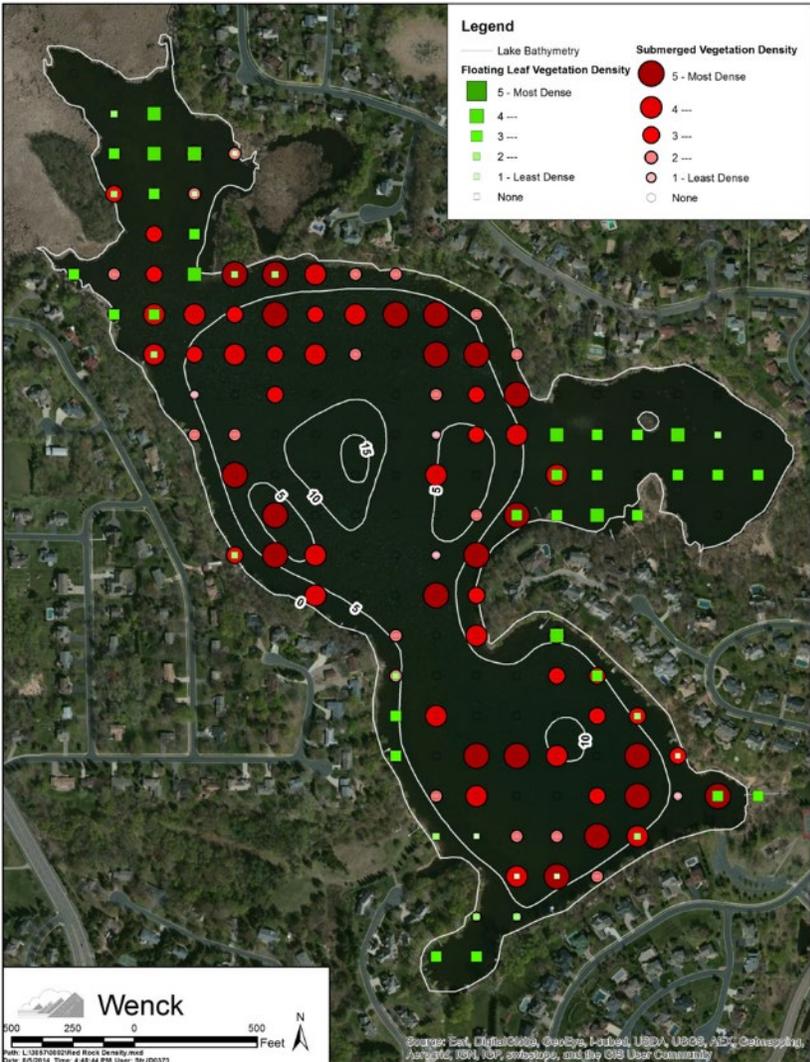




Kohlman Lake Aquatic Plant Management

Red Rock Lake aquatic plant management

Riley Purgatory Bluff Creek Watershed District and City of Eden Prairie Partnership





Challenges of managing aquatic vegetation for recreation

East Vadnais, June 8, 2021

- A harvesting program will require an adaptive management approach
 - Need to determine effective area and time
 - Might take some trial and error to get system down
- Requires annual activity and maintenance
 - Frequency depends upon size and condition of desired recreation area
 - Harvester requires upkeep and maintenance
- Harvesting only cuts 2-3 feet in depth
 - May not reach shallower areas
- Poor weather can minimize harvesting time
- Need to identify disposal site for harvested plants
- **However, these programs are very feasible and effective in many other lakes**

Aquatic vegetation management – Heavy lift

Whole Lake Drawdown



Dredging



For tonight's meeting

- Update since Dec. 1 neighborhood conversation
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- **Summary of community-engagement process and results**
- Public input opportunity



VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
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**East Goose Lake
Community-Engagement Results**



Prepared by: Dawn Tanner, Phil Belfiori, Nick Voss, and Connie Taillon
June 2021.

Summary of community-engagement process and results

Lakeshore owner engagement

- Neighborhood conversation with lakeshore owners
- Hard-copy response form mailed to lakeshore owners

Community engagement

- Community-engagement survey online via Survey Monkey
- Upcoming, late-summer community input meeting

East Goose Lake community-engagement process

Lakeshore owner engagement

- Lakeshore owner neighborhood conversation (December 1, 2020)
- Lakeshore owner hard-copy survey (December-January 2021)
- Lakeshore owner multiple hard-copy mailings
- First notice on Community-engagement survey and East Goose Lake Web Hub: <https://www.vlawmo.org/eastgoosealm>

East Goose Lake Neighborhood Conver...

Adaptive Lake Management

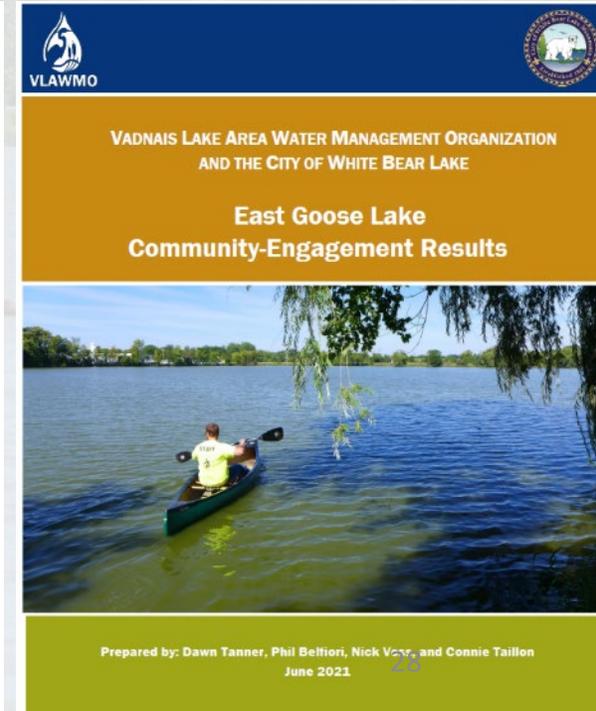
- ALM and associated benefits
- Steps to implement ALM approach
- Possible Management projects

Watch on YouTube

Lakeshore owner neighborhood conversation (p. 1)

Page numbers reference the East Goose Lake Community-Engagement Results

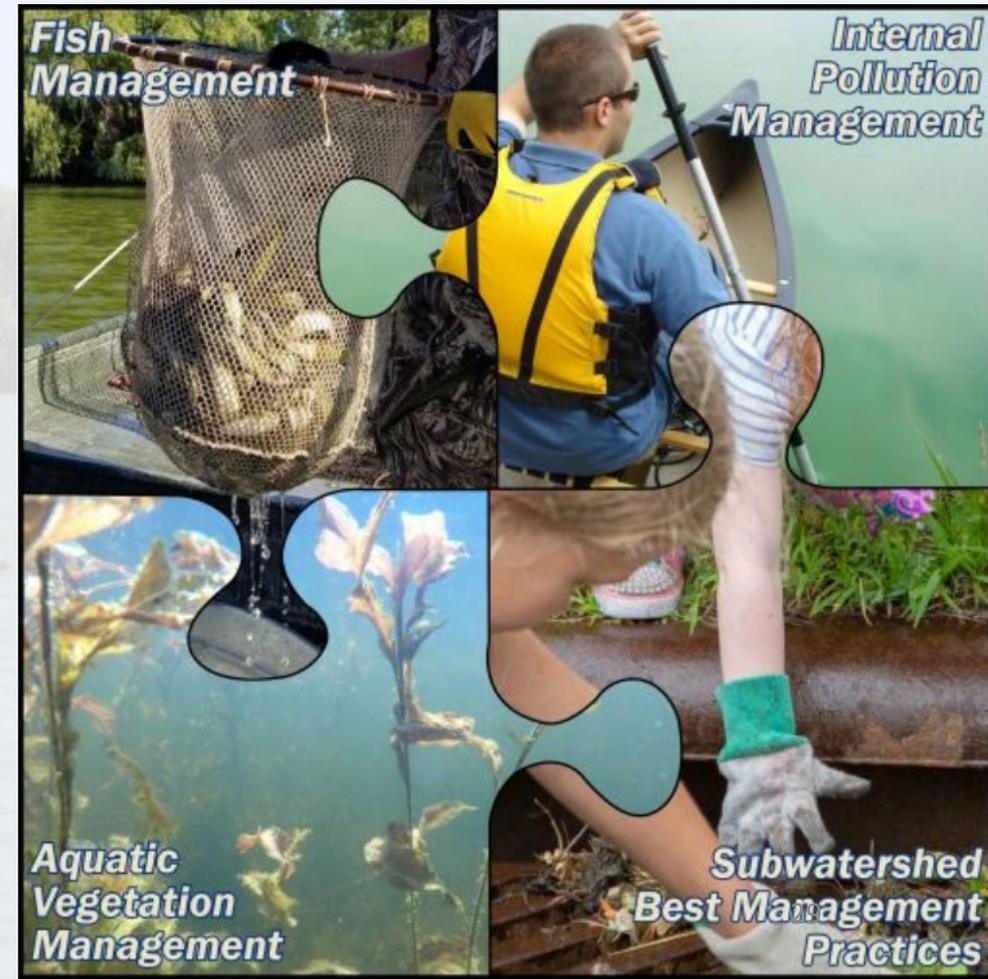
- Held December 1, 2020, 6:30 pm
- Lakeshore owners notified in advance through postcard invitation and reminder
- Registration accepted in advance, immediately prior to, and during meeting
- The Mayor, Councilmembers, City of White Bear Lake staff, VLAWMO staff, White Bear Press, and 5 lakeshore owner households attended



Lakeshore owner neighborhood conversation

Themes in 5 categories (p. 2)

1. Fish and lake improvement
2. Internal loading and alum treatment
3. Subwatershed efforts and projects
4. Values and relationships
5. Questions and clarification



Lakeshore owner hard-copy survey (p. 3)

- Sent following December 1 meeting
- Mailed to 30 lakeshore owners (Ramsey County Property map to ID)
- If no response after 2 weeks, contacted by phone or email
- Survey consisted of 3 questions, Question #2 had 4 parts (A-D)
- 16 survey responses were received by VLAWMO
- All comments included in results
- Participants not identified
 - A participant's number is consistent throughout the survey
 - A single participant's responses can be viewed among questions without revealing identity

Lakeshore owner hard-copy survey

- Responses were written in (open ended) by lakeshore owners
- Open-ended responses were coded (organized into categories) to allow graphic representation and rapid understanding of where people stand on each question
- Codes used:
 - 1) Support
 - 2) Opposition
 - 3) Mixed
 - 4) Concerns
 - 5) Other comments
 - 6) Blank
- 3 coders from VLAWMO staff reviewed and assigned codes independently
 - Coders met to decide on overall code assignments
 - When not in agreement, consensus was reached through discussion
- Full responses, considered codes, each coder's overall code, and a final assigned code are included for transparency

Lakeshore owner hard-copy survey

Question 1: Do you have comments of support or reservations about the proposed 2021 Adaptive Lake Management projects? *Refer to slide 11 in attached printout.*

Slide 11/25 slides included in attached printout:

Proposed 2021 Projects

- Fish removal/demonstration
In partnership with the DNR
- Fish stocking demonstration /research
As recommended by DNR /VLAWMO purchased
- ALM development and stakeholder engagement
Media use/COVID adapted



Lakeshore owner hard-copy survey (Raw data for Q1 starts on p. 5)

Full Suite of Responses Received to Q1 and Coding Assignments by VLAWMO Staff:

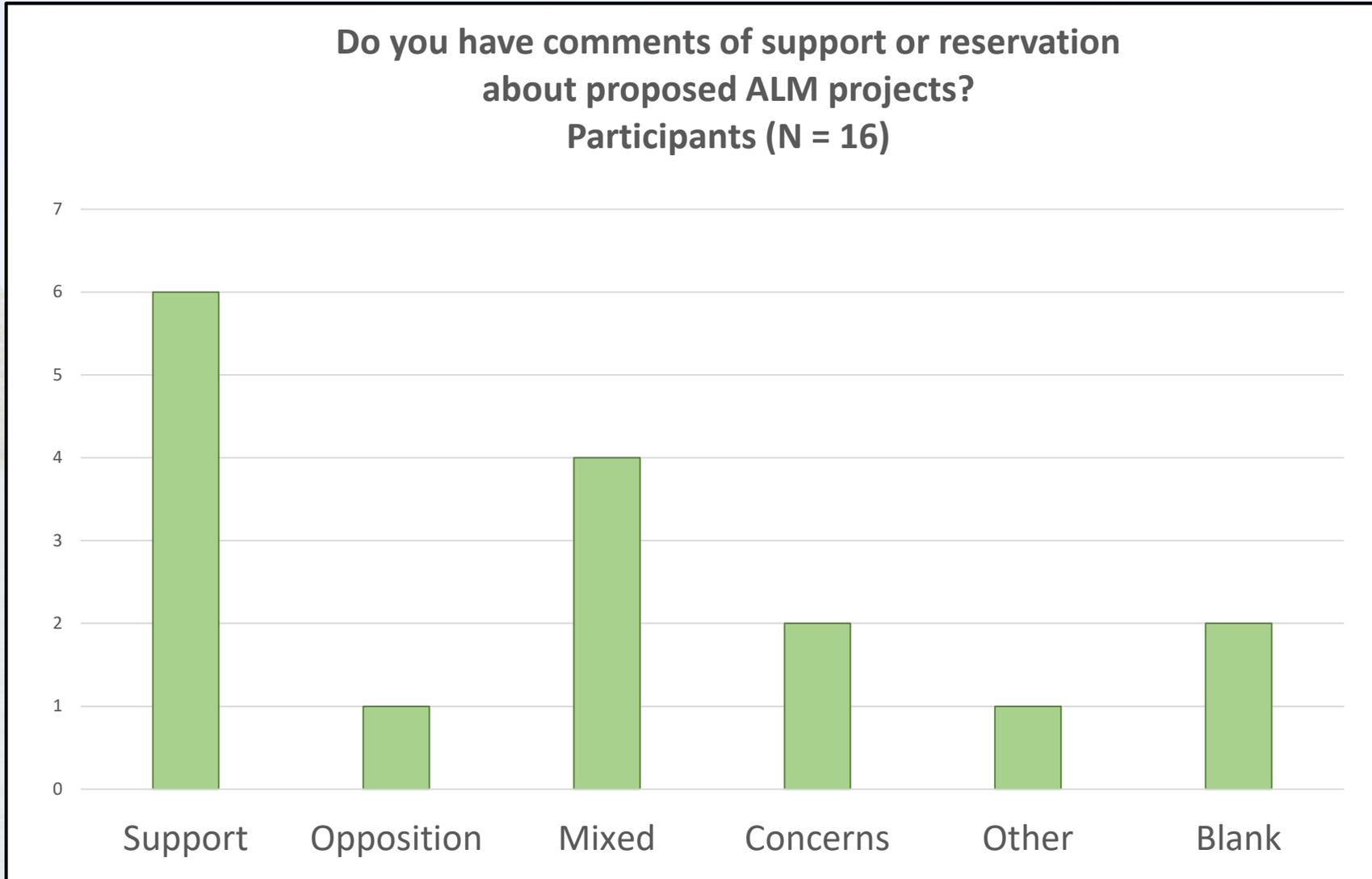
Codes

- 1) Support
- 2) Opposition
- 3) Mixed
- 4) Concerns
- 5) Other comments
- 6) Blank

P	OC	Phil	P-CC	Dawn	D-CC	Nick	N-CC	Response
1	1	1	5	1	5	1	5	I have read you're form and plan to clean up East Goose Lake - I have about 800' of shoreline on south East corner of East Goose Lake. I have wood ducks - mallards - cranes - mink - fox and raccoons. I put out a 32' dock abut have not noticed any usual lake aquatic weeds like lily pads, bull rushes, cattails, or cabbage weeds. I see snapping turtles but rarely a painted turtle.
			1		1		1	Yes I am heavily in favor of cleaning up lake and making it a class "A" body of water. Please clean this lake up! The water ski people already have West Goose for their skiing, us other shoreline owners deserve a nice clean lake to enjoy.
							5	
2	4	4	4	4	5	5	5	I think that first correction should be lake levels. Stop adding warm water to East Goose Lake. Lake levels have to be higher in East Goose Lake first before anything else. Until that is done other steps will not be effective.
			4		4		4	Is the lake deep enough for game fish? If we have heavy snow wouldn't we have winter kill?
3	2	2	2	2	2	3	3	In general, we are in favor of all steps proposed with the exception of the alum treatment that seems to create huge weed problems, etc.
			5		5		5	I would encourage you to provide more info and alternatives before moving forward on that step. You could mail the info + host more zoom meetings to educate us further.

Lakeshore owner hard-copy survey

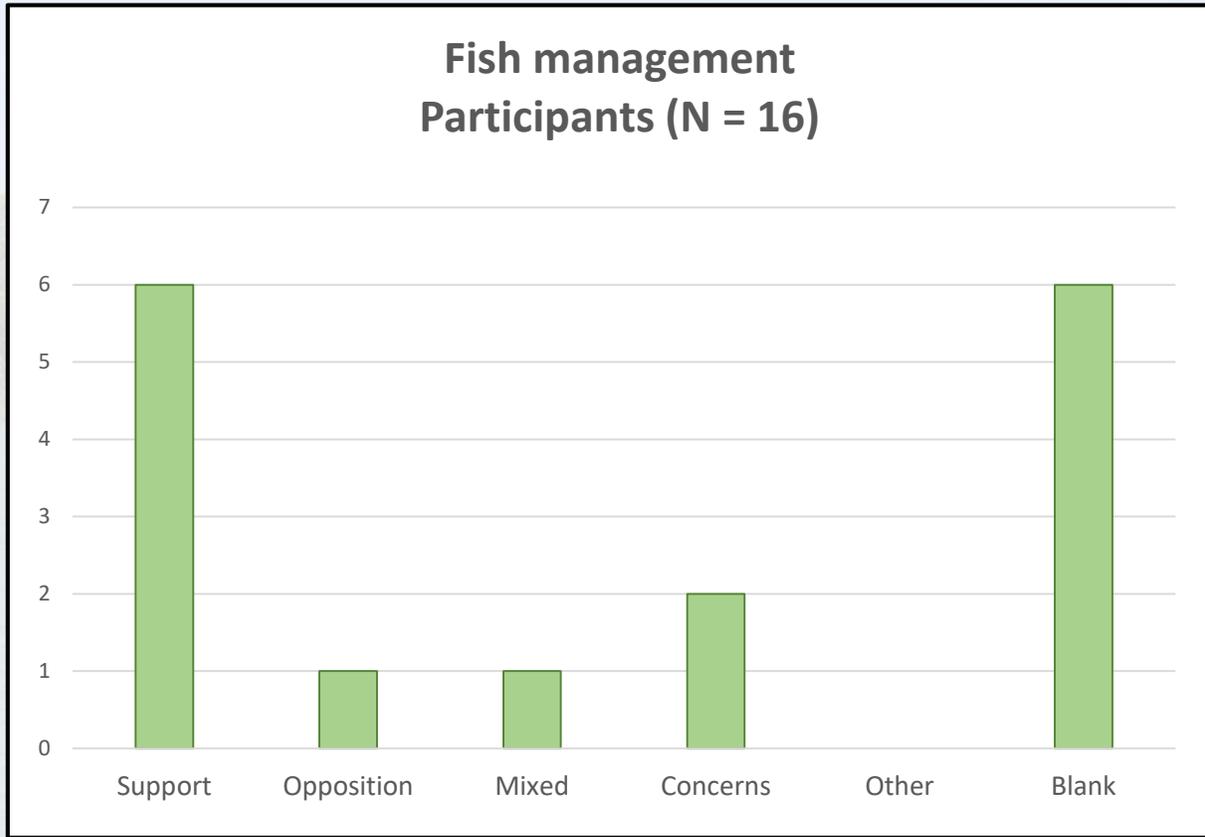
Q1, (p. 5)



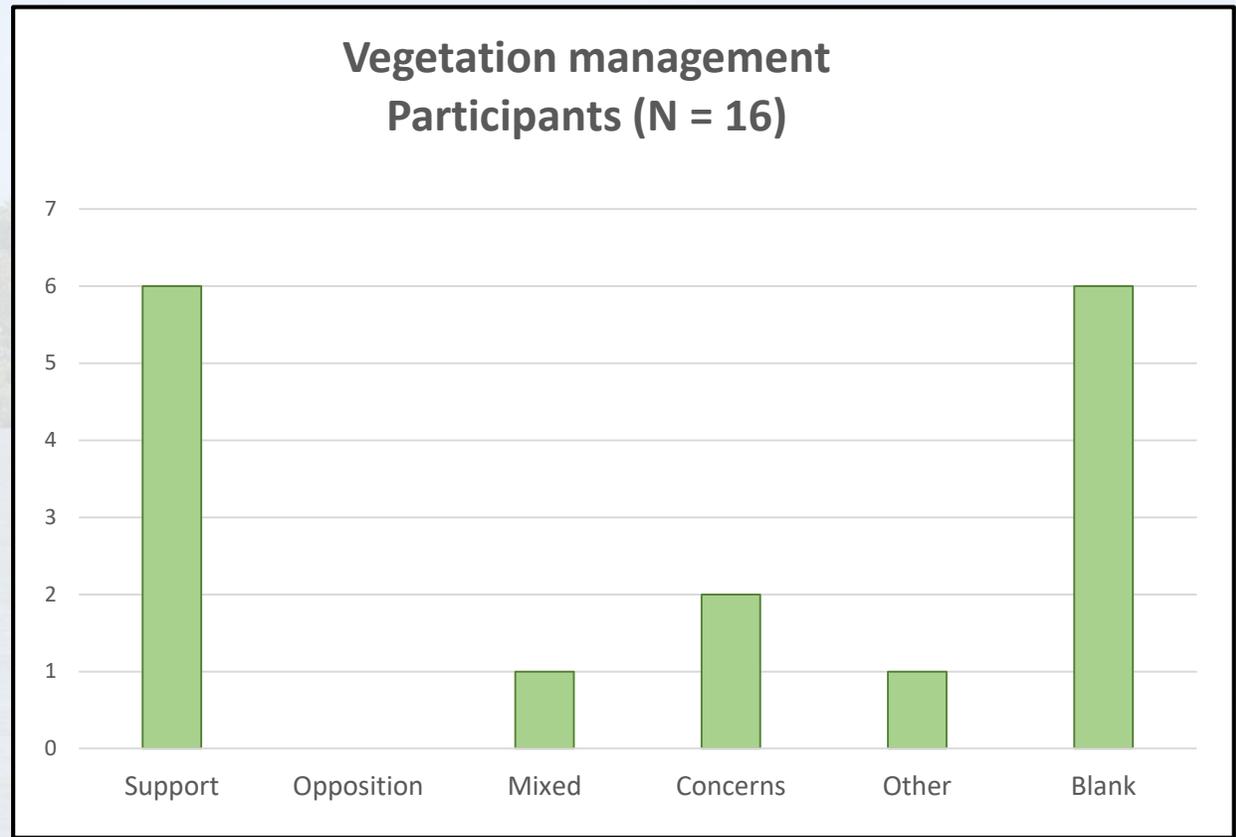
Graphs were developed as a result of coding done by VLAWMO staff

Lakeshore owner hard-copy survey

Question 2A-D asked if participants had comments of support or reservation for possible management actions (p. 8)



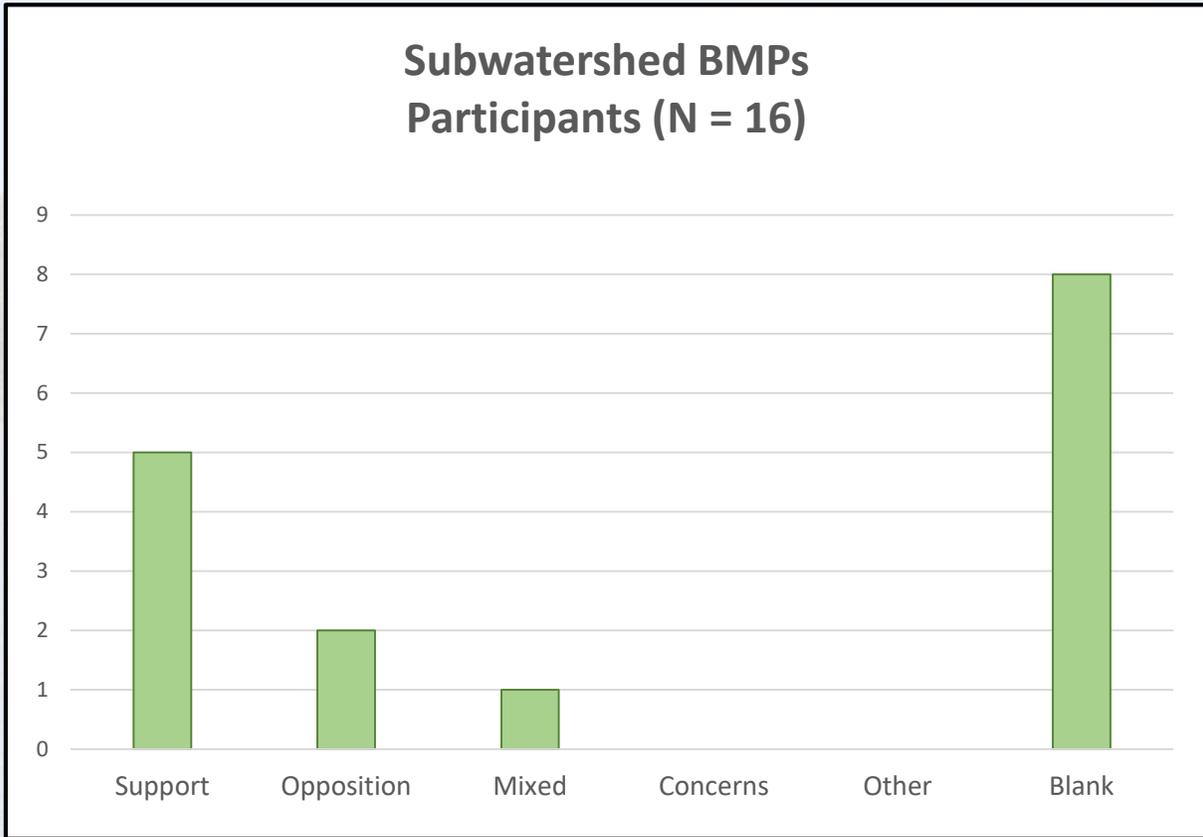
Q2A: p. 10



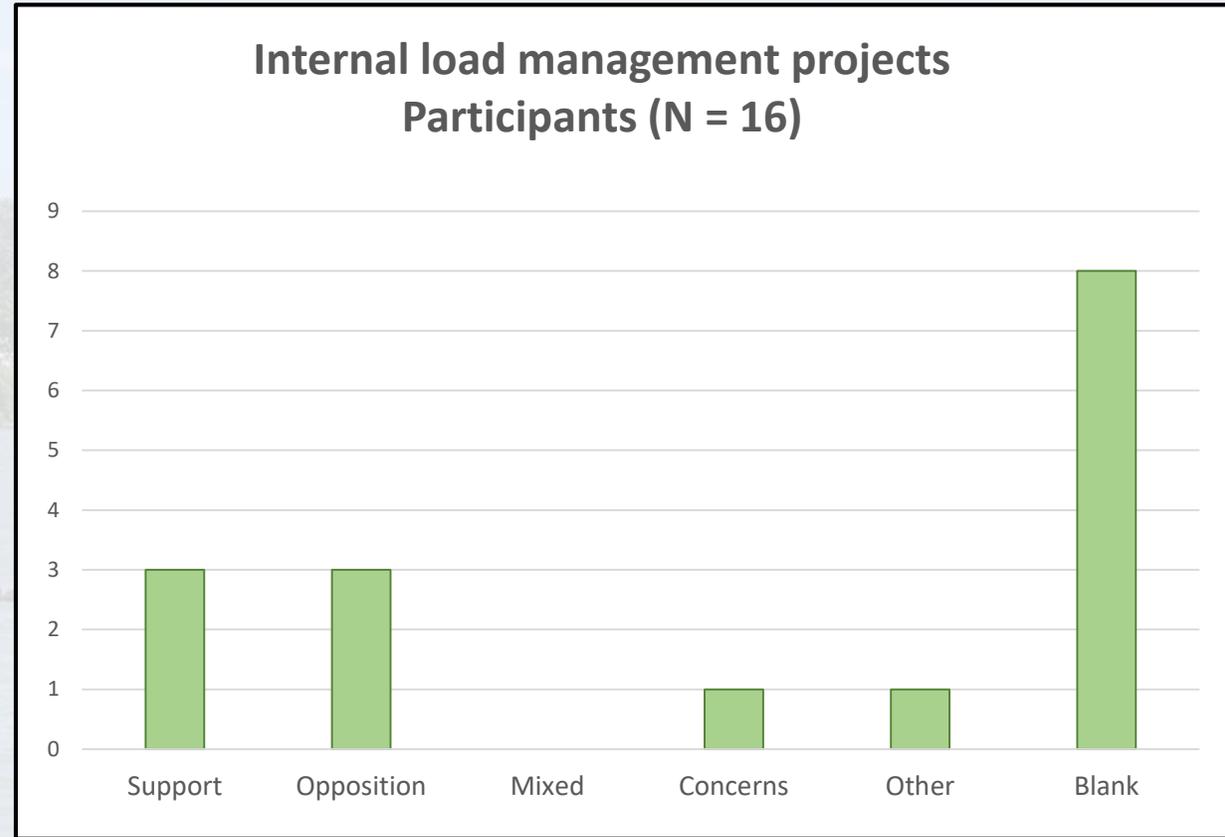
Q2B: p. 13

Lakeshore owner hard-copy survey

Question 2A-D asked if participants had comments of support or reservation for possible management actions (p. 8)



Q2C: p. 16



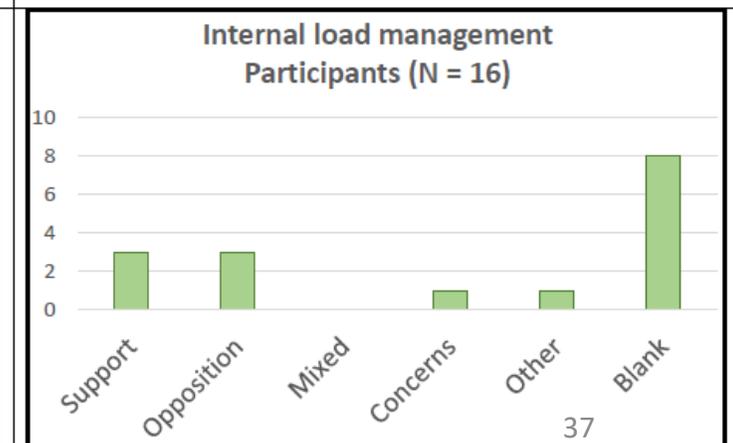
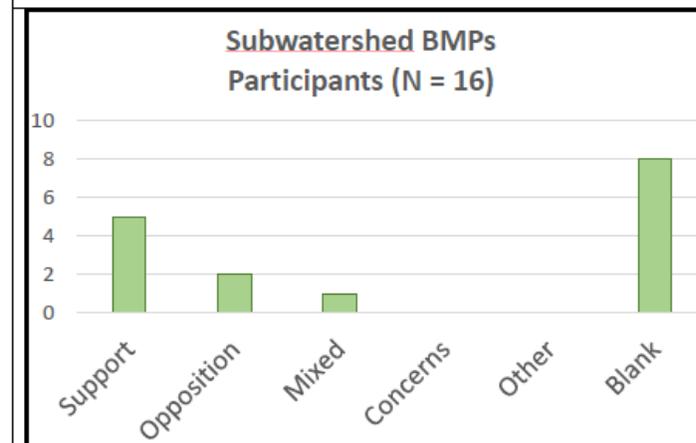
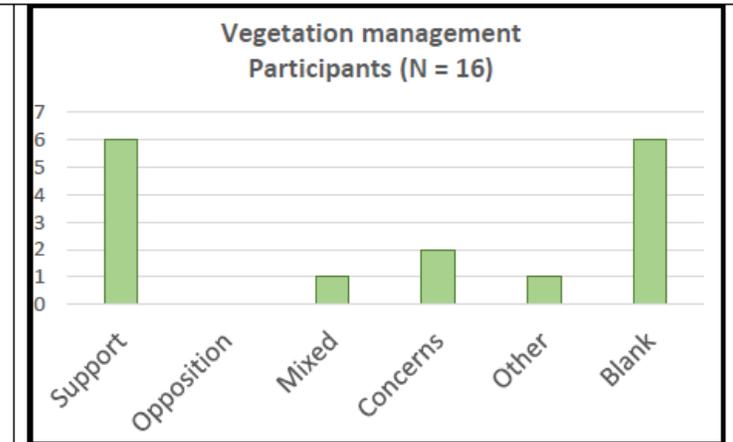
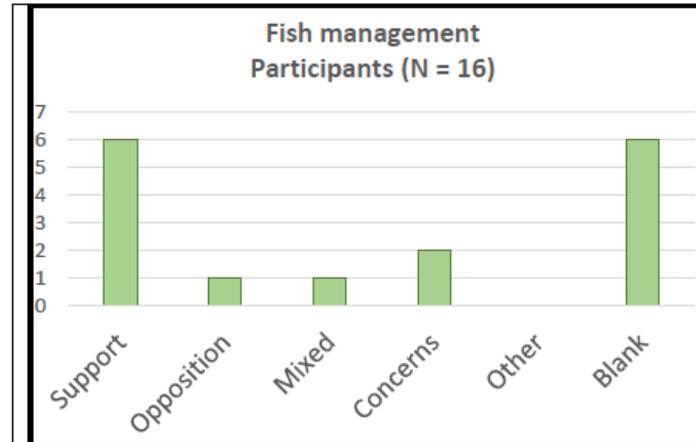
Q2D: p. 19

Lakeshore owner hard-copy survey

- Summary graphs for possible management actions shown side-by-side (p. 8)

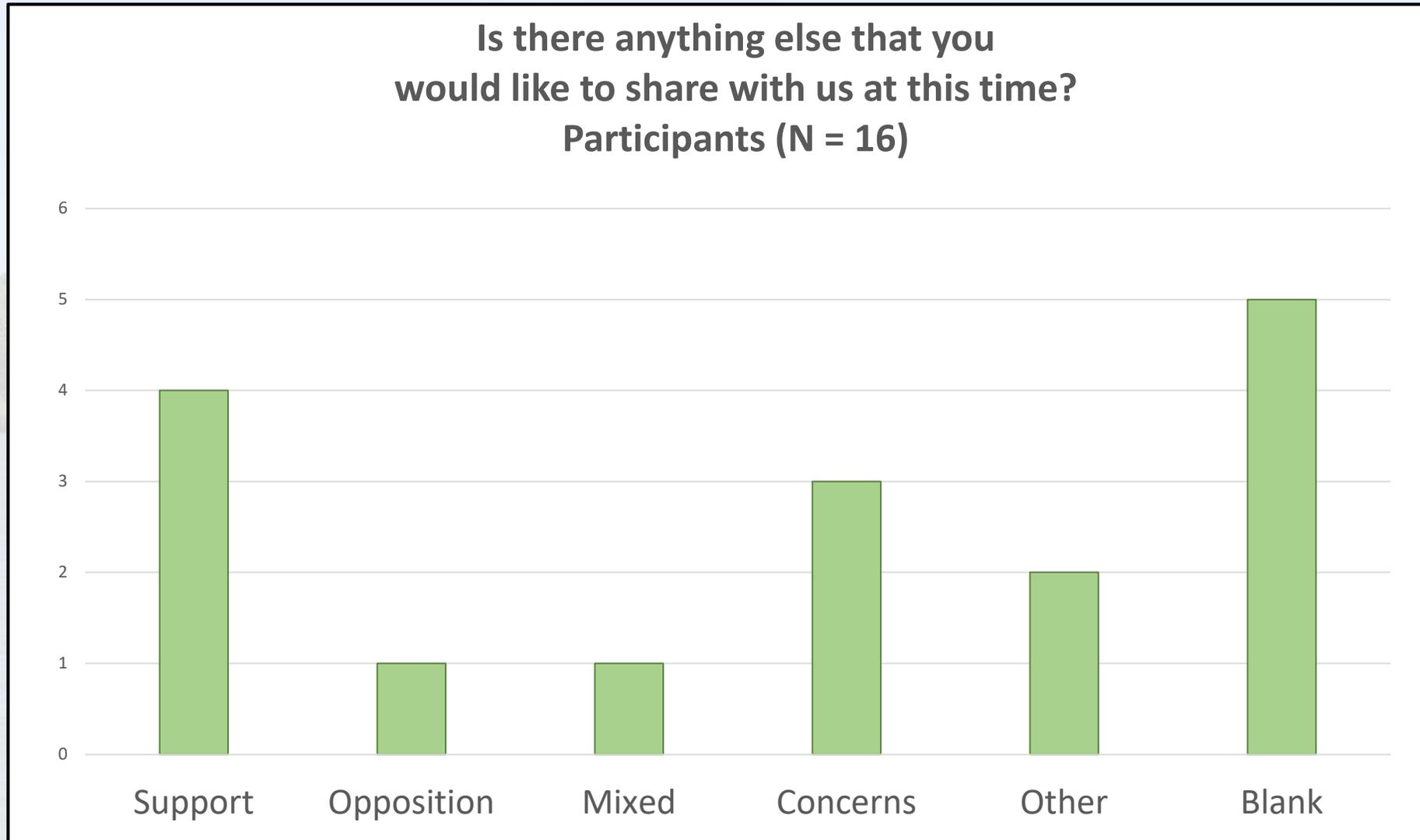
- Strongest support for fish and veg management
- More even and low (3:3) for internal load
- Many respondents left Q2 and Q3 blank after leaving longer comments in Q1 (fully represented in document)

Question 2A-D: This multi-part question asked about each of 4 possible management categories: fish management, vegetation management, subwatershed BMPs, and internal load management. Each question and detailed responses follow next in this document. On this page, summary graphs for the 4 categories are provided for easy comparison. The graphs are shown again with each subquestion.



Lakeshore owner hard-copy survey

Q3, (p. 21)



East Goose Lake community-engagement process

Community engagement

- Community-engagement survey (January-March 2021)
- East Goose Lake Web Hub: <https://www.vlawmo.org/eastgoosealm>

Why did we go community wide with the survey?

- Public waterbody and community resource
- Gateway to WBL from Hwy 61
- Mandate to City through MS4



Community-engagement survey (p. 23)

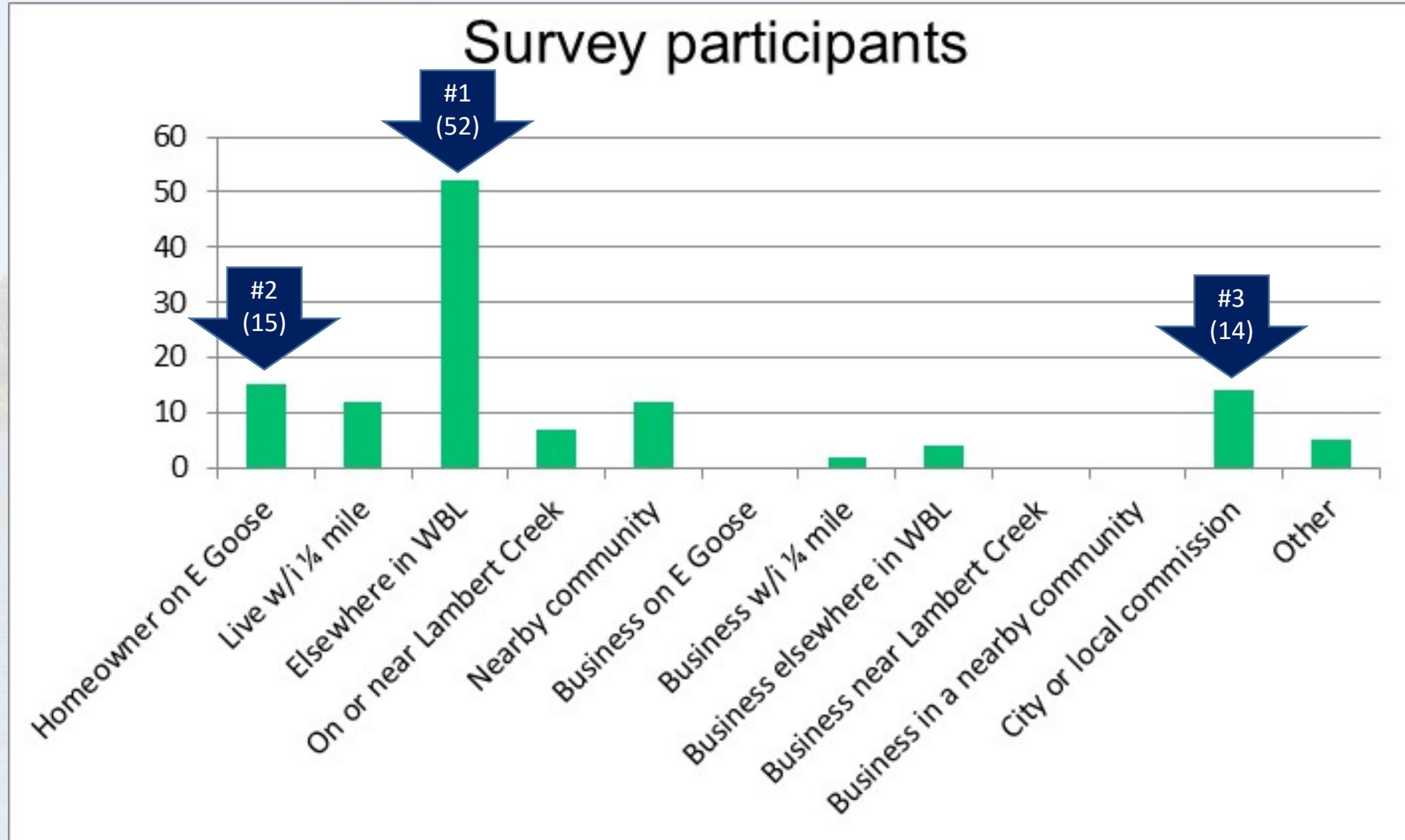
- Developed by VLAWMO, City of WBL staff, with input from the City of WBL Environmental Advisory Commission
- Administered through SurveyMonkey
- Available/open January 26-March 31, 2021
- Promoted through:
 - VLAWMO and City social media platforms
 - Published multiple times including a final reminder notice in the White Bear Press
 - Direct postcard mailings to East Goose lakeshore owners

Community-engagement survey (January 26-March 31, 2021)

- 9 questions
- Focused on basic demographics, use, concerns, and hopes for future condition of East Goose Lake
- Completed by 101 participants
 - Including East Goose Lake homeowners, people living in WBL and surrounding areas, business owner/representatives, and others
- Output for all 9 questions available by request and included as hard-copy handout for workshop

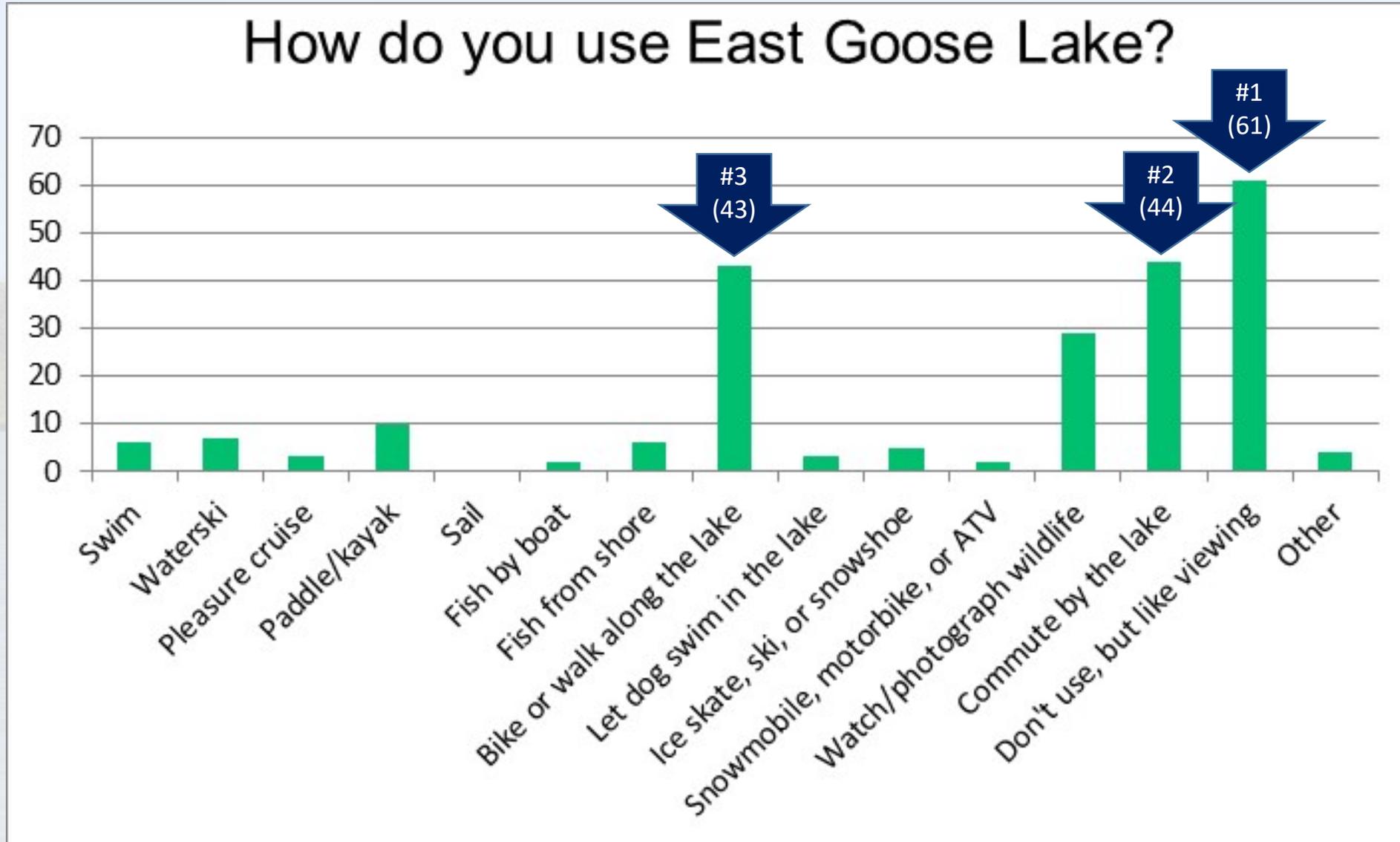
Community-engagement survey

Q1: Who filled out the survey? (p. 24, select all that apply)



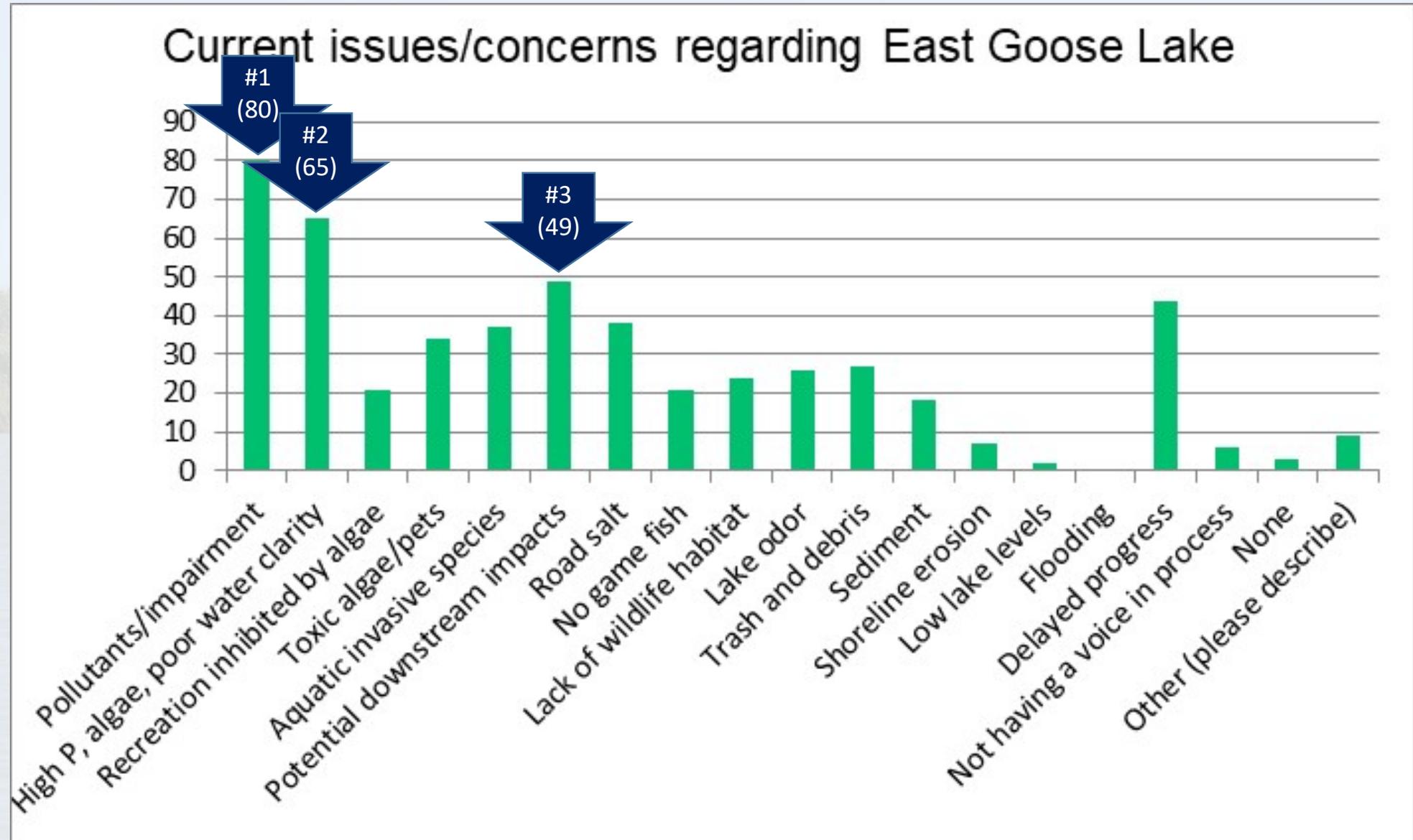
Community-engagement survey

Q2: Current uses for East Goose Lake (p. 26, select all)



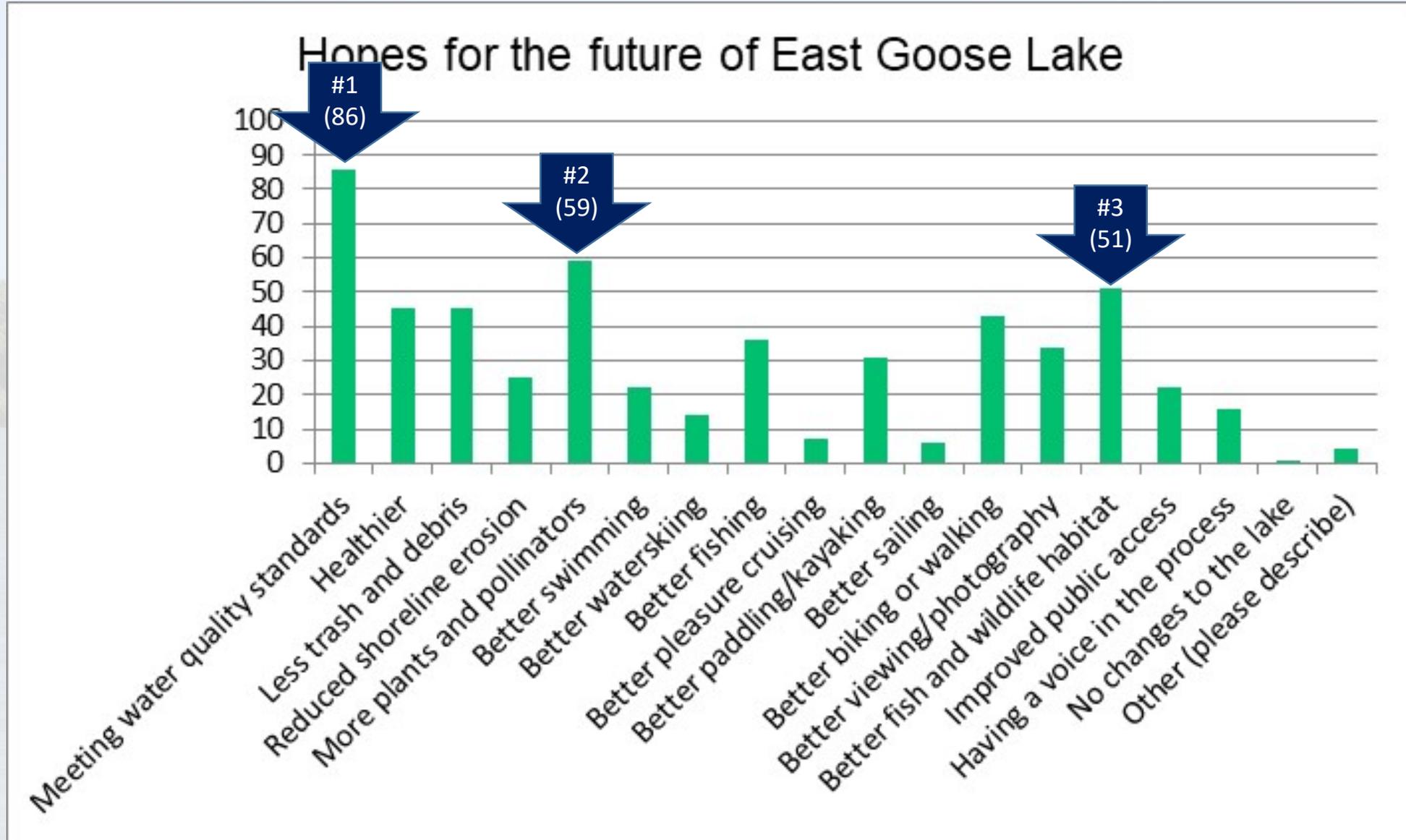
Community-engagement survey

Q3: Concerns regarding East Goose Lake (p. 28, select top 6)



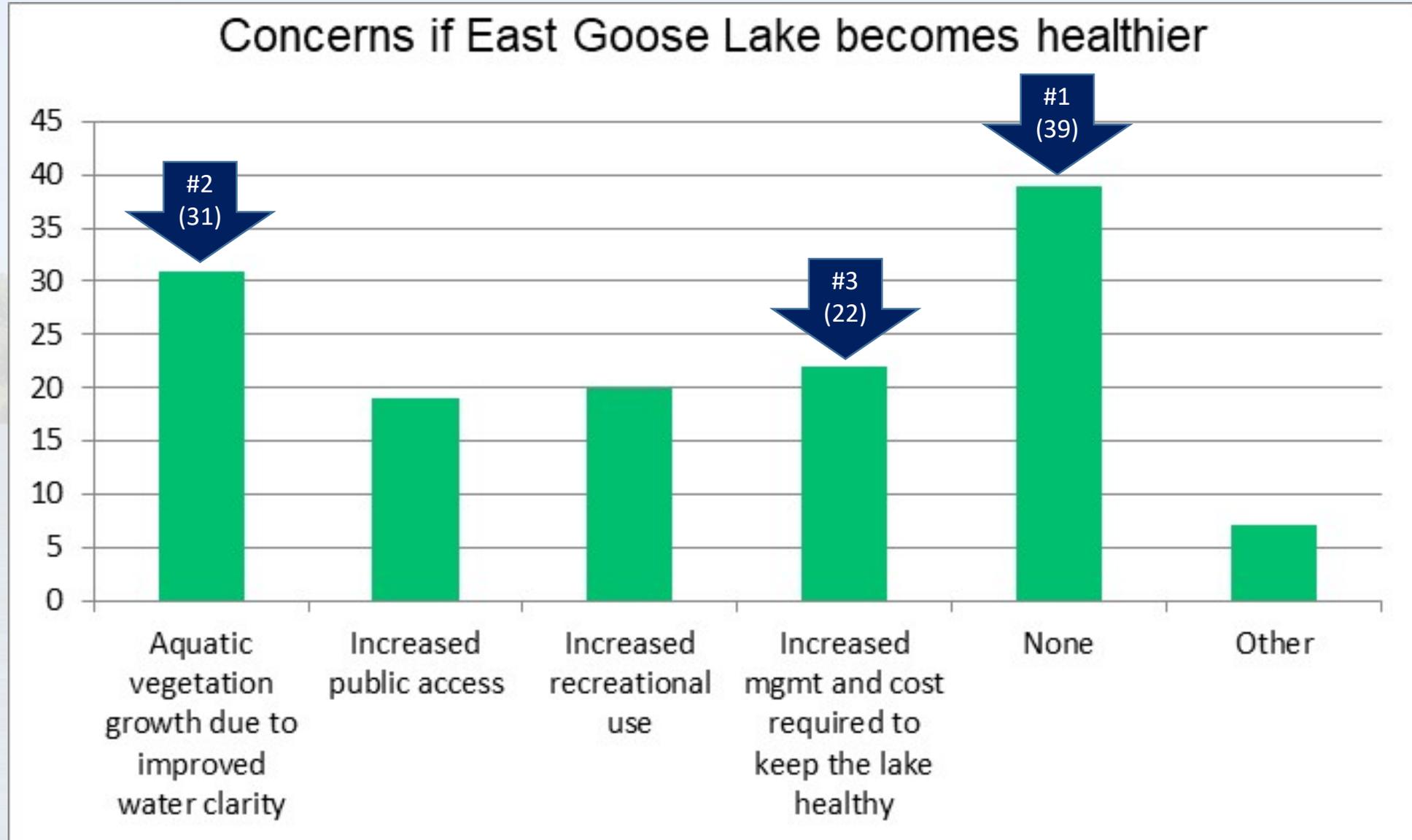
Community-engagement survey

Q4: Hopes for the future of East Goose Lake (p. 30, select all)



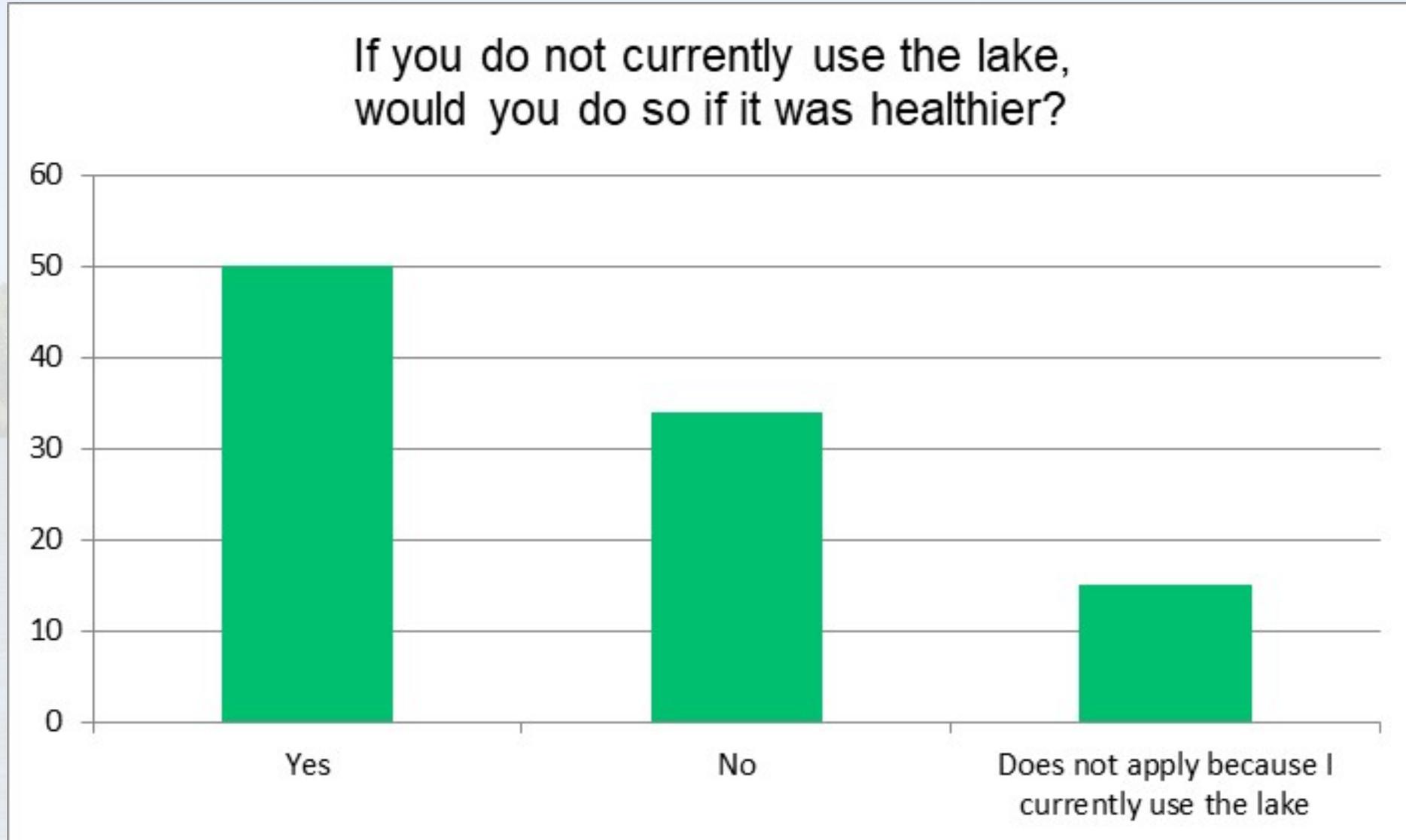
Community-engagement survey

Q5: Concerns if East Goose Lake becomes healthier (p. 32, select all)



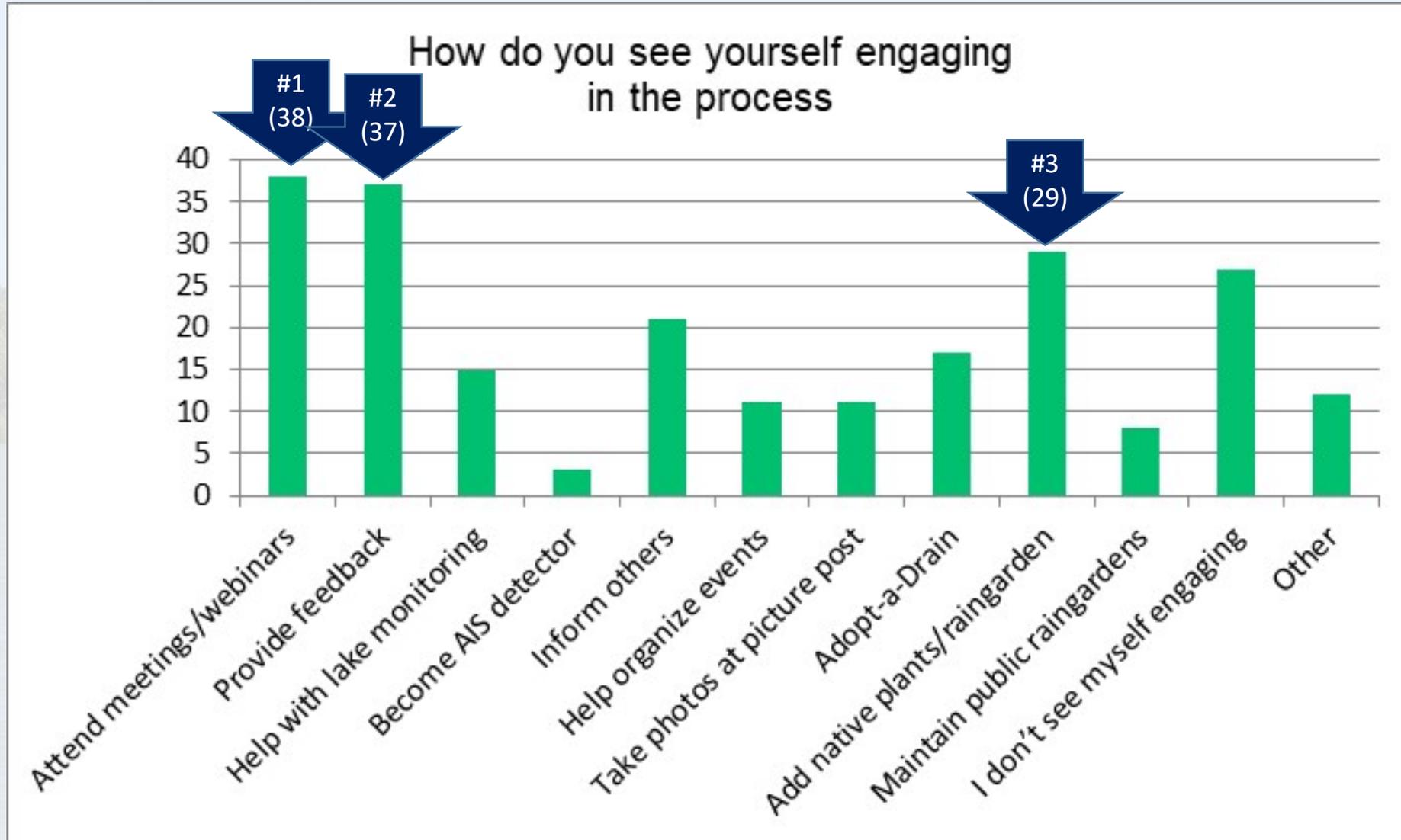
Community-engagement survey

Q6: Would you use the lake if it was healthier? (p. 34)



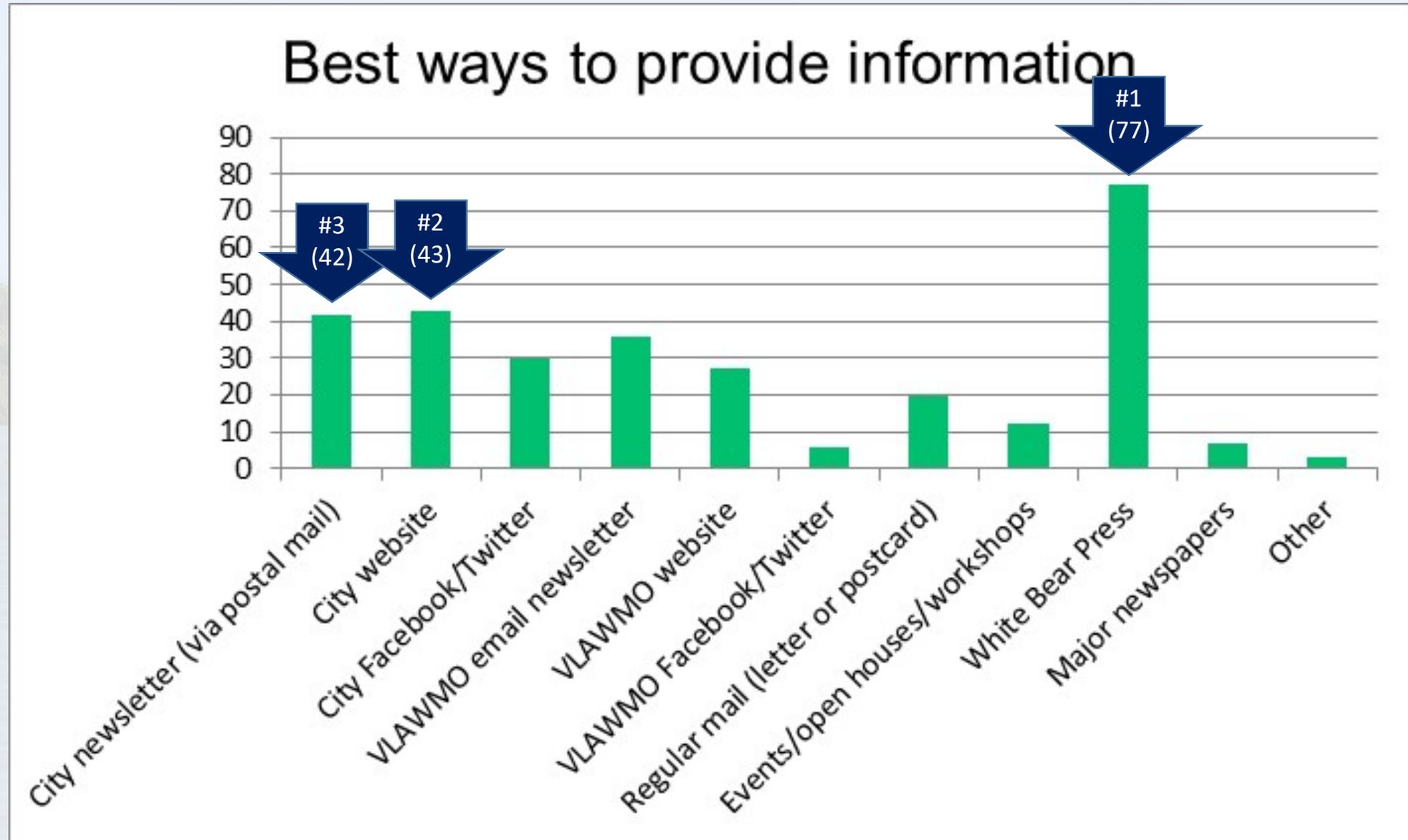
Community-engagement survey

Q7: Engaging in the process (p. 35, select all)



Community-engagement survey

Q8: Best ways to provide information (p. 37, select all)



Community-engagement survey

Q9: (p. 38)

- Review in provided document

Next steps

- **VLAWMO Board and Council consideration of a scope of work for a more detailed management plan (Fall, 2021)**
- **Plan will include:**
 - Recommended actions and options
 - Proposed schedule of activities
 - Cost estimates catered to East Goose Lake
 - Integrated, continued public engagement process



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- Shallow lake science
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- **Public input opportunity**



VADNAISS LAKE AREA WATER MANAGEMENT ORGANIZATION
AND THE CITY OF WHITE BEAR LAKE

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Community-Engagement Results**



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June 2021.

